$$OH$$

HO

Ent-Estra-1,3,5(10),9(11)-tetraene-3,17 β-diol or (8α,13α,14β,17α)-Estra-1,3,5(10),9(11)-tetraene-3,17-diol

$$HO$$
 $HO$ 
 $Ent$ -Estra-1,3,5(10),9(11)-tetraene-3,17 α-diol or (8 α,13 α,14 β,17 β)-Estra-1,3,5(10),9(11)-tetraene-3,17-diol

Ent-Estra-1,3,5(10)-triene-3-ol or 
$$(8 \alpha,9 \beta,13 \alpha,14 \beta)$$
-Estra-1,3,5(10)-triene-3-ol

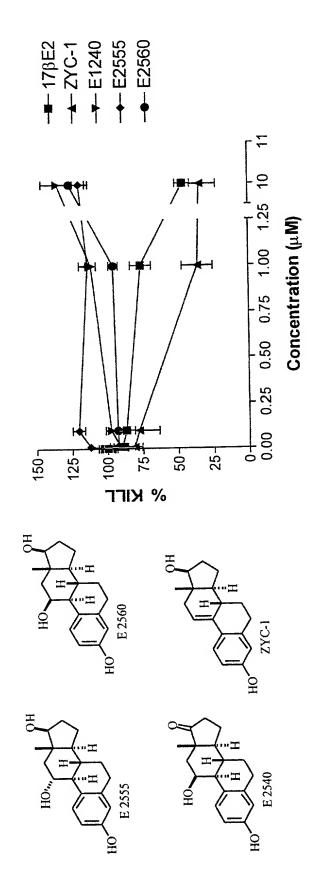
Fig. 1B

ZYC-2

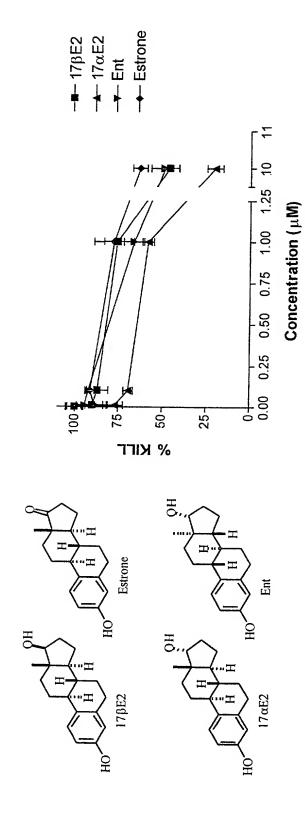
ZYC-4

ZYC-27

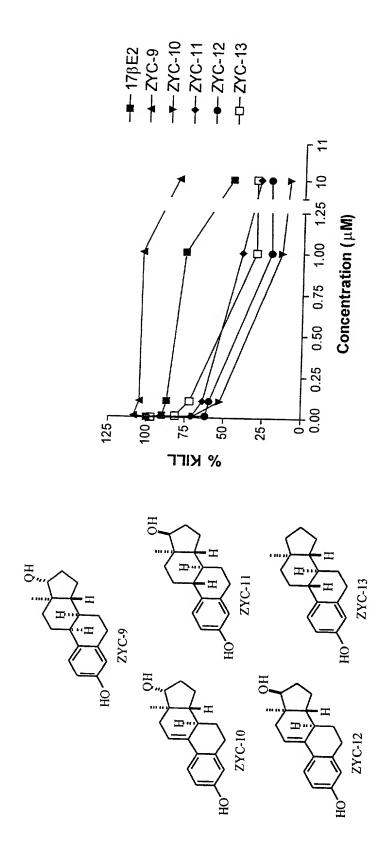
## SAR for Polar Substituents on Steroid C-Ring SAR for Phenoxy Radical Stabilization by Extended Resonance Delocalization



## SAR for Absolute Configuration of 17β-Estradiol SAR for C-17 Substituents

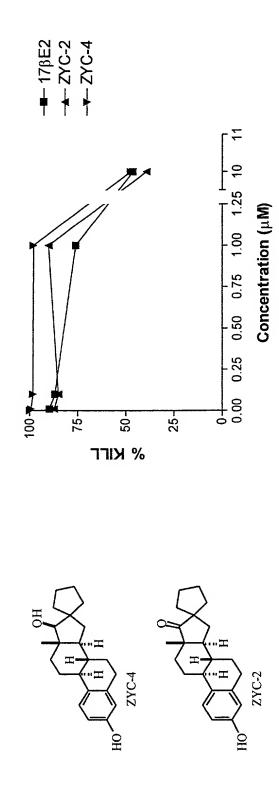


## SAR of Unnatural Steroid Enantiomers



$$R_z$$

## SAR for Bulky D-Ring Hydrophobic Substituents



ZYC-4: Spiro[cyclopentane-1,16'-estra[1,3,5(10)triene]-3'17'-diol; CA Reg. No. 157302-44-8 ZYC-2: Spiro[cyclopentane-1,16'-estra[1,3,5(10)triene]-3'-ol-17'-one; Unknown